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REVALIDATION AND RE-DESCRIPTION OF *BUFO OCELLATUS* GÜNTHER, 1858 (ANURA: *BUFONIDAE*)

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In 1858 Günther described *Bufo ocellatus* based on a single specimen and wrote "Brazil" as geographical distribution. The description was as follows:

> "Crown rather flat, with two bony ridges beginning from the snout, much divergent posteriorly, each bifid behind: snout rather pointed, protruding. Paratoids indistinct, not swollen; tympanum very distinct, much higher than broad. Above covered with numerous nearly equal warts, beneath granulated. Toes half-webed; tarsus with two tubercles, without cutaneous fold. Back brown, with a narrow vertebral line separating four or five pairs of black, yellowedged spots; sides punctated with yellow; belly punctated with black.
>
> a. Adult. Brazil. From M. Parzudaki's collection".

From Januaria, State of Minas Gerais, we received, in 1935, two specimens of a *Bufo* strinkingly similar to that described by Günther.

During a trip to the zone of Bananal island, in the Araguaia river (States of Goiás-Mato Grosso), 1948, the senior author caught 20 specimens of this interesting *Bufo* and observed its habitat. One of these *Bufo* was sent to Dr. H. W. Parker, herpetologist of the British Museum, whose comparison was the following:

> "I find that the two are very similar indeed. They are approximately the same size and almost the only morphological difference that I can notice is that in the type the cranial ridges are slightly better developed and possess acuter edges. The colour pattern of the two is essentially similar. Detailed comparison is difficult because the type has been eviscerated and also damaged by ants..."

One of the specimen from Januaria had already undergone comparison by one of us (D. M. C.) with the following result:

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"I found *B. ocellatus* worthy of full specific rank, and not to be confused with any other Brazilian species".

Being sure of the non-cospecificity between *Bufo ocellatus* and *Bufo typhonius*, based on the comparison of Parker and Cochran on one hand, and on the material at our disposal on the other, we avail ourselves of the oportunity to revalidate the name and redescribe the *Bufo* above mentioned.

Description: Based chiefly on an adult ♀ (with eggs) U. S. N. M. 131333 (formerly Inst. Butantan 397) from Januaria, Minas Gerais.

Tongue elliptical, very elongated, about 1/3 of mouth opening, entire and free for its posterior half; snout short, its sides forming a right angle and its tip somewhat truncated when viewed from above, bluntly rounded in profile, the upper jaw extending well beyond the lower; nostrils nearly at tip of snout, just below canthus, the opening supero-lateral, separated from each other by an interval equal to half to their distance from eye. Canthus rostralis marked by a rather weak arc-shaped ridge joining a somewhat heavier supraocular crest thickening on its inner posterior border into a short parietal crest, and continuing outward and posteriorly to form a short distinct postorbital crest; preocular crest generally not evident, though the specimens Inst. Butantan 1.677 and 1.678 show this character fairly well; interocular space flat, below level of ridges; parotoids variable, rounded or elongated, possessing orange-yellow poison, when elongated its distal end tapers, or they may be piriform; they are smaller, equal or somewhat larger than eyelid and extending only to level of shoulders; eye moderate, projecting beyond snout; interorbital diameter about twice the width of upper eyelid, three times the interval between nostrils. Tympanum generally well evident in outline, but in some specimens this character is not so distinct (Inst. Butantan 1.671 and 1.674), higher than broad, as high as the diameter of the eye and close to it. Fingers free, with lateral ridges distally, lst and 2nd fingers subequal and shorter than 4th; a large palmar tubercle and a small one beside it at base of lst finger; subarticular tubercles of fingers quite prominent, some double and some single; toes webbed at the base, with a lateral series of minute tubercles, 3rd and 5th subequal, reaching to base of penultimate phalanx of 4th; a small oval inner and a round outer metatarsal tubercle; no tarsal ridge; subarticular tubercles of toes small, all single. Body stoutness, in postaxillary region nearly twice the greatest width of head (in female distended with eggs); when hind leg is adpressed, heel fails to reach axilla, and tip of 4th toe barely reaches end of snout; when limb are laid along the sides, knee and elbow are separated by an interval equal to length of tibia; when hind legs are bent at right angles to body, heels are widely separated. Body completely covered with small tubercles, slightly larger along dorsolateral line and slightly larger along the dorsolateral line and around anus, smaller on sides and lower surface of legs. No obvious scapular ridges; no tibial

glands, no skin fold on chest. A pair of very prominent tubercles just over the anus.

Color in alcohol. Dorsum deep fawn color with a white midline beginning on tip of snout and going backward and reaching tip of coccyx near anus; dorsum dotted by two rows of four ocelli, separated by the white midline, a third row of two ocelli is seen more laterally. All ocelli are surrounded by a pale border; lateral region with a black irregular line from outside of parotoid and sometimes reaching the border of thigh; a large crossband on dorsum of hind thigh: a white strip in the middle of chest is sometimes to be seen: arms and legs with black crossbands separated by light areas; ventral region with a coarse dark and light reticulation, centre of throat dusky, and edges of lips fawn color; warts along lateral line and below anus light.

Habitat: They were found at Mato Verde, on the borders of the States of Mato Grosso and Goiás, as well as on the Island of Bananal facing the former locality. They were also found at Santa Izabel (Island of Bananal), State of Goiás. At Mato Verde some specimens were caught at water's edge of the Araguaia river, near a pond. At Mr. Lucio da Luz's farm their voices were frequently heard at night after some rain or change of atmospheric conditions. Others were caught about 5 km from the Araguaia river, on a plain region full of termitaria. They were always found at the bottom of the termitaria. On the island of Bananal facing Mato Verde is another plain region near a lagoon named "Lagoa do Cavalo", here they were found only in holes in the ground, these being about 30-40 centimeters deep. On a rainy night we heard a chorus of these batrachians. Unfortunately our flashlight was damaged and we caught only a few specimens. During the warmer part of the day they were seen at the opening of the holes. At Santa Izabel (Island of Bananal) we were able to obtain specimens from the ground holes and from the bottom of termitaria.

Voice: Unfortunately we took no notes on their voices.

Reproduction: We could not get any information on the subject, and we did not observe couples during sexual behavior.

Observations: The inclusion of *Bufo ocellatus* in the synonymy of *Bufo typhonius* seem to us entirely unjustified. *Bufo ocellatus* is aparently not closely related to any other Brazilian form, although superficially it somewhat resembles *Bufo granulosus* and *Bufo d'orbignyi* in stoutness of body and in limb proportions. Its characteristic pattern distinguishes it at once from all other Brazilian toads. In shape of parotoids it suggests *Bufo marmoreus* of *Mexico*.

TABLE OF DIMENSIONS OF THE SPECIMENS OF *BUFO OCELLATUS* GÜNTHER, 1858, IN THE COLLECTION OF INSTITUTO BUTANTAN

NUMBER	1.683	1.680	1.684	1.675	398	1.673	1.672	1.671	1.682	1.676	1.685	1.678	1.686	1.681	1.674	1.679	1.936	1.677
Length of body	47,0	48,0	41,0	46,0	40,0	45,0	47,0	49,0	42,0	46,5	41,0	48,0	43,0	49,0	41,5	45,0	47,0	47,0
Length of head	13,8	14,0	13,0	11,0	12,5	13,2	13,5	13,8	13,2	13,8	12,5	11,0	12,6	11,6	12,5	13,2	13,5	13,6
Width of head	17,3	15,7	11,5	15,7	13,7	15,4	16,3	16,0	15,2	16,7	14,1	16,5	14,0	17,0	14,2	15,0	16,0	16,3
Length of femur	18,6	16,0	15,5	17,0	14,5	17,5	15,9	19,0	11,8	17,0	15,6	19,0	16,3	20,0	15,6	15,8	17,5	17,0
Length of tibia	16,7	16,0	14,5	15,5	13,2	15,3	15,8	16,3	15,0	15,7	14,0	16,8	14,7	17,4	13,0	15,0	16,0	15,4
Length of postocular crest	2,0	2,0	1,7	1,9	1,6	2,1	2,2	2,2	2,0	1,8	1,7	2,0	1,6	2,2	1,7	2,0	2,1	2,2
Length from foot to tip of 4th toe	23,8	24,7	20,0	23,6	19,6	22,8	25,0	23,7	23,0	23,0	20,5	25,0	21,0	25,2	20,5	22,8	24,0	24,5
Greater distance between postocular crests	13,1	13,0	12,4	13,3	11,7	12,7	13,0	13,0	12,2	12,5	11,2	13,5	11,6	13,5	11,4	12,0	12,5	13,3
Space between nostrils	2,3	2,4	2,0	2,2	1,7	2,2	2,3	2,3	2,2	2,3	2,0	2,4	2,1	2,5	2,0	2,2	2,3	2,3
Lengt from anterior edge of nostril to tip of snout	0,8	0,8	0,6	0,8	0,6	0,6	0,6	0,7	0,7	0,8	0,7	0,8	0,6	0,9	0,6	0,7	0,7	0,7
Distance from posterior edge of carpal tubercle to tip of 3rd toe	11,4	11,3	9,5	10,3	9,2	10,0	10,5	10,8	10,2	10,5	9,3	11,8	9,5	11,8	9,3	10,3	10,7	10,7
Distance from posterior edge of nostril to anterior edge of tympanum	9,2	9,4	8,7	9,0	8,3	8,7	9,0	9,1	8,3	9,0	8,1	9,4	8,3	10,2	8,4	8,7	9,0	8,9
Heigth of tympanum (transv.)	3,6	3,7	3,5	3,6	2,8	2,9	3,2	3,2	3,9	4,1	3,6	3,7	3,7	3,9	3,3	3,6	3,7	4,1
Width of tympanum (longit.)	2,5	2,8	2,4	2,7	2,0	2,2	2,1	2,2	2,8	2,5	2,5	2,9	2,7	2,6	3,2	2,8	2,6	3,0
Ocular diameter (longit.)	5,0	5,1	4,5	4,9	4,3	4,9	5,3	5,3	4,7	5,0	4,5	5,0	4,6	5,3	4,5	3,9	5,0	5,0
Length of fingers	1 - 2 - 1 - 3																	
Length of toes	1 - 2 - 5 - 3 - 4																	
Distance from anterior edge of eye to tip of snout	5,2	5,0	4,5	5,0	4,2	5,2	5,4	5,4	4,8	4,7	4,0	5,2	4,0	5,5	4,3	4,6	5,4	5,2
Anterior interorbital space	10,2	9,8	9,5	9,8	9,1	9,8	10,1	10,4	9,4	9,6	8,8	10,2	9,0	10,0	9,5	10,0	10,4	10,0

List of specimens:

a) *British Museum:* An adult (stuffed skin), Brazil, type of *Bufo ocellatus* Günther, from M. Parzudaki's collection.

b) *United States National Museum:* 121334 (Inst. Butantan 397), from Rio Pandeiro, Januaria, Minas Gerais.

c) *Instituto Butantan:* Mato Verde, Mato Grosso: 1.677 (sent for the U. S. N. M.), 1.678 (body, sternum and skull), 1.679, 1.680, 1.681, 1.682, 1.683, 1.684, 1.685, 1.686 and 2.598. Mato Verde, Island of Bananal, Goiás: 1.670 and 1.671 (skin and skeleton). Santa Izabel, Island of Bananal, Goiás: 1.672, 1.673 (sent for the U. S. N. M.), 1.674, 1.675, 1.676 (sent for the British Museum) and 1.936. Aruanã, Goiás: 2.599. Rio Pandeiro, Januaria, Minas Gerais: 398.

Dimensions (of the specimen U. S. N. M. 131333): head and body, 59mm; head lenght, 16mm; diameter of eye, 7mm; width of head, 20mm; femur, 22mm; tibia, 19mm; hind leg, 63mm; fore leg, 31mm.

SUMMARY

In this paper the AA revalidate the name and redescribe *Bufo ocellatus* Günther, 1858, up to now under the synonymy of *Bufo typhonius*. Information is given on the habitat of these interesting *Bufo* based on the observations of about 20 specimens obtained in the Island of Bananal region, on both sides of the Araguaia river, border of the States of Mato Grosso and Goiás, Brazil.

SUMARIO

Neste trabalho os AA revalidam o nome e redescrevem *Bufo ocellatus* Günther, 1858, até agora considerado sinonimo de *Bufo typhonius*. Oferecem alguns dados sobre o habitat destes interessantes *Bufo*, baseados na observação de cerca de 20 exemplares obtidos na região da Ilha do Bananal, de ambos os lados do rio Araguaia, fronteira dos estados de Mato Grosso e Goiás, Brasil.

BIBLIOGRAPHY

Günther, Albert. — Catalogue of the batrachia salientia in the collection of the British Museum, London, 1858, pg. 64.



Fig. 1 — *Bufo ocellatus* Günther, 1858
Dorsolateral view



Fig. 2 — *Bufo ocellatus* Günther, 1858
Dorsal view

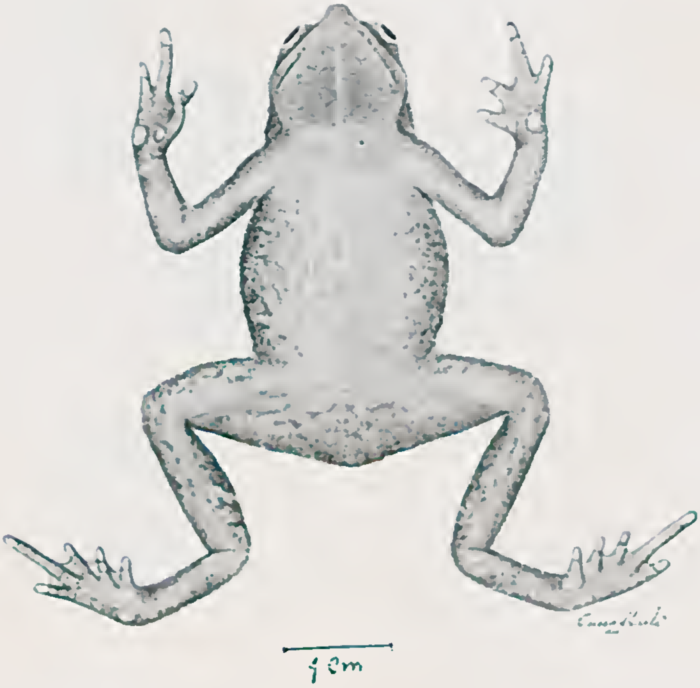


Fig. 3 — *Bufo ocellatus* Günther, 1858
Ventral view



Fig. 4 — *Bufo ocellatus* Gunther, 1858
Front view



Fig. 5 — *Bufo* [illegible] Günther, 18[illegible]
Fore and hind legs, and lateral view of head



Fig. 6 — *Bufo ocellatus* Gunther, 1858
Photography of a preserved specimen dorsal view

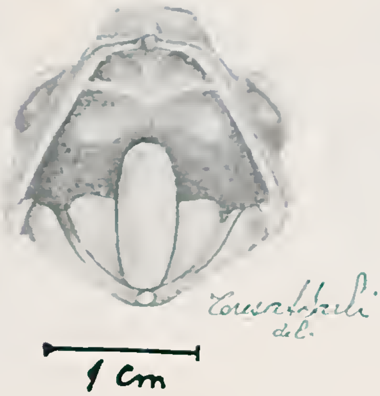


Fig. 7 — *Bufo ocellatus* Günther, 1858
Mouth